

TCEQ PERMIT NO. 7711A

APPLICATION BY	§	BEFORE THE
GAF MATERIALS CORPORATION	§	TEXAS COMMISSION ON
ASPHALT AND ROOFING MATERIALS	§	ENVIRONMENTAL QUALITY
MANUFACTURING FACILITY	§	
DALLAS, DALLAS COUNTY	§	

EXECUTIVE DIRECTOR'S RESPONSE TO PUBLIC COMMENTS

The Executive Director (ED) of the Texas Commission on Environmental Quality (TCEQ or the "Commission") files this response to public comments on the proposed standard permit and the ED's preliminary decision. As required by 30 TEXAS ADMINISTRATIVE CODE (TAC) § 55.156 (the "Rule"), before an application is approved, the ED prepares a response to all timely, relevant and material, or significant comments. The Office of Chief Clerk timely received comment letters from Irvin Uphoff and Lisa Magee. Notwithstanding the limitation in the Rule to relevant and material, or significant comment, this Response addresses all timely public comments received, whether or not withdrawn.

Description of Facility

GAF Materials Corporation ("GAF") has applied to the TCEQ for an amendment and renewal of an asphalt and roofing materials manufacturing facility located at 2600 Singleton Blvd., Dallas, Dallas County. The facility is currently authorized under permit number 7711A. The proposed amendment is to incorporate "grandfathered" equipment into permit number 7711A.

Procedural Background

The permit application was received on September 28, 2000, and was declared administratively complete on October 17, 2000. The Notice of Receipt and Intent to Obtain an Air Quality Permit ("notice") was authorized for publication on the October 28, 2000. The applicant published notice on November 9, 2000 in *Dallas Morning News*. Spanish language notice was published on November 9, 2000 in *El Extra*. A hearing request and comment letters were received in response to this notice during the 15-day comment period ending on November 24, 2000. The hearing request was withdrawn on October 11, 2002. A request to amend permit 7711A was received on September 27, 2001. Subsequently, an additional notice was published on July 4, 2002 in the same newspapers as noted above. No comments were received in response to the amendment notice during the 30-day comment period ending on August 4, 2002. The application was declared technically complete on October 28, 2003.

Comments and Responses

Similar comments that could be addressed by one explanatory response have been grouped to minimize redundancy.

COMMENT 1: "I am a concerned citizen within the Dallas Metroplex area. Although I do not live near the plant on Singleton Boulevard in Dallas, Texas, I do breath the same air they do. I am writing to voice my opinion and concerns about the amount of pollutants this factory is emitting to our air. Does this facility meet or exceed the current air quality controls set by the EPA?" (Linda Magee) "...my health and well-being may be affected from the source emissions;

and odors, inherent with this process could create a nuisance and may affect the enjoyment of my property." (Irvin Uphoff).

RESPONSE 1: The Texas Clean Air Act and TCEQ rules require an evaluation of air quality permit applications to determine whether adverse effects to public health, general welfare, or physical property are expected to result from a facility's proposed emissions. As part of the permit evaluation process, the permit reviewer identifies all sources of air contaminants at the proposed facility and assures that the facility will be using the best available control technology (BACT) applicable for the sources and types of contaminants emitted. The BACT is based upon control measures that are designed to minimize the level of emissions from specific sources at a facility. Applying BACT results in requiring technology that best controls air emissions with consideration given to the technical practicability and economic reasonableness of reducing or eliminating emissions. TCAA § 382.0518; 30 TAC § 116.111.

GAF has represented in the permit application that BACT will be used at the proposed site. Use of appropriate control measures will decrease the amount of air contaminants emitted into the atmosphere by this facility. Contaminants from this facility include particulate matter, nitrogen oxides, sulfur dioxide, carbon monoxide, and volatile organic compounds. The primary control measures applied to this facility are: the use of an electrostatic precipitator; the use of a thermal oxidizer; the use of nine baghouses/dust collectors; paving of plant roads; and applying water or environmentally sensitive chemicals on all unpaved plant roads. Other control measures required by the draft permit include restrictions on visible fugitive emissions from the electrostatic precipitator, all dust collector stacks, all process heater vents, and building vents.

For many permits, potential impacts to human health and welfare or the environment are determined by comparing air dispersion modeling predicted emission concentrations from the proposed facility to appropriate state and federal standards.^{1, 2} The specific health-based standards or guidance levels employed in evaluating the potential emissions include the National Ambient Air Quality Standards (NAAQS); TCEQ standards contained in 30 TAC Chapter 111, specifically 30 TAC § 111.155 and 112.3; and TCEQ Effect Screening Levels (ESLs).³ "Criteria pollutants" are those pollutants for which a NAAQS has been established.

NAAQS are created by the United States Environmental Protection Agency (EPA) and are set to protect sensitive members of the population such as children, the elderly, and individuals with existing respiratory conditions. The NAAQS, as defined in the federal regulations (40 C.F.R. § 50.2), include both primary and secondary standards. The primary standards are those which the Administrator of the EPA judges are necessary, with an adequate margin of safety, to protect the public health, including sensitive members of the population such as children, the elderly, and individuals with existing lung or cardiovascular conditions. Secondary NAAQS are those which the Administrator judges necessary to protect the public welfare and the

¹ See the document "Air Quality Modeling Guidelines" for details on air modeling at the TCEQ website at www.tnrc.state.tx.us/permitting/airperm/nsr_permits/admt/guid_docs/rg25.pdf. Also visit the agency air modeling page at www.tnrc.state.tx.us/air/agp/airmodeling.html.

² Documents referenced in this response that are available on the TCEQ website are also available in printed form at a small cost from the TCEQ Publications office at 512-239-0028.

³ To view the ESL list or obtain more information on ESLs, visit the TCEQ website at www.tnrc.state.tx.us/permitting/to/est.html.

environment, including animals, crops, vegetation, and buildings, from any known or anticipated adverse effects associated with the presence of an air contaminant in the ambient air. The standards are set for criteria pollutants: ozone, lead, carbon monoxide, sulfur dioxide, nitrogen dioxide, and respirable particulate matter (PM).

For most permit applications, air dispersion modeling is performed. After a permit application's modeling review is complete, in most instances, the modeling results are then sent to the TCEQ's Toxicology and Risk Assessment section (TARA) to evaluate whether emissions from the proposed facility are expected to cause health or nuisance problems. The TARA section reviews the results from air dispersion modeling by comparing those results to the TCEQ ESLs. ESLs are constituent-specific guideline concentrations used in TCEQ's effects evaluation of constituent concentrations in air. These guidelines are derived by TARA and are based on a constituent's potential to cause adverse health effects, odor nuisances, effects on vegetation, or materials damage (e.g., corrosion). Health-based screening levels are set at levels lower than levels reported to produce adverse health effects, and as such are set to protect the general public, including sensitive subgroups such as children, the elderly, or people with existing respiratory conditions. Adverse health or welfare effects are not expected to occur if the air concentration of a constituent is below its ESL. If an air concentration of a constituent is above the screening level, it is not necessarily indicative that an adverse effect will occur, but rather that further evaluation is warranted. Generally, maximum concentrations predicted to occur at a sensitive receptor which are at or below the ESL would not be expected to cause adverse effects.

For this specific permit application, appropriate air dispersion modeling was performed. The likelihood of whether adverse health effects caused by emissions from GAF's facility could occur in members of the general public, including sensitive subgroups such as children, the elderly, or people with existing respiratory conditions, was determined by comparing the facility's predicted air dispersion computer modeling concentrations to the relevant state and federal standards. The permit reviewer used modeling data from this facility to verify that ground level concentrations from the proposed facility are not likely to adversely impact off-property receptors. TCEQ background concentrations from the geographic region were used to model predicted values, and worst-case operating conditions were assumed, i.e., all processes operating simultaneously at maximum throughput and during the worst-case meteorological conditions. The overall evaluation process provides a conservative prediction that is protective of the public. The modeling predictions were reviewed by the TCEQ Air Permits Division, and the modeling analysis was determined to be acceptable.

In addition to complying with the federal and state standards and guidelines mentioned above, applicants must also comply with 30 TAC § 101.4, which prohibits nuisance conditions. Specifically the rule states, "No person shall discharge from any source whatsoever one or more air contaminants or combinations thereof, in such concentration and of such duration as are or may tend to be injurious to or to adversely affect human health or welfare, animal life, vegetation, or property, or as to interfere with the normal use and enjoyment of animal life, vegetation, or property." As long as the facility is operated in compliance with the terms of the permit, nuisance conditions or conditions of air pollution are not expected. According to the facility's maximum allowable⁴ emission rate table in the draft permit, the GAF facility will emit approximately 98.21 tons per year of particulate matter, 33.01 tons per year of nitrogen oxides,

⁴ The term "allowable" means the maximum emission rate of a specific pollutant from a given source, as specified in the permit.

3.39 tons per year of sulfur dioxide, 26.83 tons per year of carbon monoxide, and 43.77 tons per year of volatile organic compounds. These emissions are not expected to create nuisance conditions.

Emissions of particulate matter (PM) were evaluated for GAF's facility. Particles up to 50 microns (μm) in diameter are collectively referred to as "total suspended particulates" (TSP). Particulate matter includes TSP, $\text{PM}_{2.5}$, and PM_{10} . Particulate matter consists of solid particles and liquid droplets found in the air. Particles less than 10 μm in diameter (PM_{10}) are referred to as "coarse" particles and particles less than 2.5 μm in diameter are referred to as "fine" particles ($\text{PM}_{2.5}$). Sources of coarse particles include wind-blown dust, dust generated by vehicles traveling on unpaved roads, and material handling. Fine particles are usually produced via industrial and residential combustion processes and vehicle exhaust.

Some of the key health effects associated with PM exposure are aggravation of pre-existing respiratory diseases such as chronic obstructive pulmonary diseases, asthma, bronchitis, or emphysema; increased respiratory symptoms such as coughing; changes in lung tissue and structure; and altered respiratory defense mechanisms. The ability of PM to generate these adverse health effects depends upon the concentration of PM to which a person is exposed, on the ability of PM to reach the sensitive regions of the respiratory system, its persistence, and its inherent toxicity.

The NAAQS for PM_{10} is based on 24-hour and annual time periods. The measurement for predicted concentrations of air contaminants in modeling exercises is expressed in terms of micrograms per cubic meter ($\mu\text{g}/\text{m}^3$). One microgram is 1/1,000,000 of a gram, or 2.2/1,000,000,000 of a pound (approximately the weight of a dust mite) of air contaminant per cubic meter of ambient air. The air volume of a cubic meter is approximately the size of a washing machine. Predicted air concentrations occurring below the 24-hour and annual NAAQS of 150 $\mu\text{g}/\text{m}^3$ and 50 $\mu\text{g}/\text{m}^3$, respectively, are not expected to exacerbate existing conditions or cause adverse health effects. Modeling for this facility resulted in predicted PM_{10} concentrations, at the facility's property line, to be 139.38 $\mu\text{g}/\text{m}^3$ (24-hour) and 49.46 $\mu\text{g}/\text{m}^3$ (annual), which are both below the NAAQS.

Particulate matter⁵ is also regulated by state standards located in 30 TAC Chapter 111. Predicted air concentrations occurring below the one-hour and three-hour state standards of 400 $\mu\text{g}/\text{m}^3$ and 200 $\mu\text{g}/\text{m}^3$, respectively, are not expected to cause nuisance conditions (dust accumulation, decreased visibility) or eye and throat irritation. Based on air dispersion modeling described above, the predicted air concentrations of PM at the property line will be 220.78 $\mu\text{g}/\text{m}^3$ (one-hour) and 153.14 $\mu\text{g}/\text{m}^3$ (three-hour). Therefore based on the potential concentrations reviewed by the executive director's staff, it is not expected that existing health conditions will worsen or that adverse health effects in the general public, sensitive subgroups, or animal life will occur as a result of exposure to the expected levels of PM.

Sulfur dioxide (SO_2) was also evaluated for GAF's facility. The SO_2 NAAQS, regulated by the EPA, are based on three-hour, twenty-four hour, and annual time periods. Predicted SO_2 air

⁵ State standards do not refer to PM. Rather, state standards refer to Total Suspended Particulate, or "TSP". The terms TSP and PM have been used interchangeably. However, TSP more specifically refers to all particulate matter that can be captured in a high-volume air sampler regardless of particle size, whereas PM is usually further classified by particle size; i.e. PM_{30} , PM_{10} , and $\text{PM}_{2.5}$.

concentrations occurring below the three-hour, twenty-four hour, and annual NAAQS of 1,300 $\mu\text{g}/\text{m}^3$, 365 $\mu\text{g}/\text{m}^3$, and 80 $\mu\text{g}/\text{m}^3$, respectively, are not expected to exacerbate existing conditions or cause adverse health effects. Modeling of this facility resulted in predicted air concentrations of SO_2 to be 12.34 $\mu\text{g}/\text{m}^3$ (three-hour), 4.95 $\mu\text{g}/\text{m}^3$ (twenty-four hour) and 0.62 $\mu\text{g}/\text{m}^3$ (annual), which are each below the NAAQS.

Nitrogen dioxide (NO_2) was also evaluated for GAF's facility. The NO_2 NAAQS, regulated by the EPA, is based on an annual time period. Predicted NO_2 air concentrations occurring below the annual NAAQS of 100 $\mu\text{g}/\text{m}^3$ are not expected to exacerbate existing conditions or cause adverse health effects. Modeling of this facility resulted in predicted air concentrations of NO_2 to be 59.9 $\mu\text{g}/\text{m}^3$ (annual), which is below the NAAQS.

Carbon monoxide (CO) was modeled to determine in order to determine if a state NAAQS Analysis was required. In this analysis, the resulting maximum concentrations from the sources associated with this facility are compared to the federal Modeling Significance Levels (MSL) (found in 40 C.F.R. 52.21(b)(23)) to determine the significance CO. Concentrations that do not exceed the MSL are considered to be so low that they do not require a state NAAQS Analysis. The CO MSL are based on one-hour and eight-hour time periods. The CO MSL are 2,000 $\mu\text{g}/\text{m}^3$ (one-hour) and 500 $\mu\text{g}/\text{m}^3$ (eight-hour). Modeling of this facility resulted in predicted air concentrations of CO to be 77.32 $\mu\text{g}/\text{m}^3$ (one-hour) and 34.52 $\mu\text{g}/\text{m}^3$ (eight-hour). Therefore, since predicted air concentrations CO occur below the MSL, a state NAAQS Analysis was not required for this pollutant.

In summary, based on the potential concentrations reviewed by the ED's staff, it is not expected that existing health conditions will worsen, or adverse health effects in the general public, sensitive subgroups, or animal life will occur as a result of exposure to the expected levels of PM, PM_{10} , SO_2 , NO_x , CO, or volatile organic compounds.

Individuals are encouraged to report any concerns about nuisance issues or suspected noncompliance with terms of any permit or other environmental regulation by contacting the TCEQ Dallas/Fort Worth Regional Office at 817-588-5800, or by calling the 24-hour toll-free Environmental Complaints Hotline at 1-888-777-3186. If the facility is found to be out of compliance with the terms and conditions of the permit, it will be subject to investigation and possible enforcement action. Citizen-collected evidence may be used in such an action. See 30 TAC § 70.4, Enforcement Action Using Information Provided by Private Individual, for details on gathering and reporting such evidence. The TCEQ has long had procedures in place for accepting environmental complaints from the general public but now has a new tool for bringing potential environmental problems to light. Under the citizen-collected evidence program, individuals can provide information on possible violations of environmental law and the information can be used by the TCEQ to pursue enforcement. In this program, citizens can become involved and may eventually testify at a hearing or trial concerning the violation. For additional information, see the TCEQ publication "Do You Want to Report an Environmental Problem? Do You Have Information or Evidence?" This booklet is available in English and Spanish from the TCEQ Publications office at 512-239-0028, and may be downloaded from the agency website at www.tceq.state.tx.us (under Publications, search for document no. 278).

COMMENT 2: "...applicant (GAF) has been operating illegally by releasing emissions which are not permitted and are not presently managed by accepted control technology; and applicant has failed to contain particulate matter." (Irvin Uphoff)

RESPONSE 2: There are no violations reported at this facility, and the company has an acceptable compliance history. GAF has represented in the permit application that BACT will be used at the proposed site. See Response 1 for more discussion on BACT.

Individuals are encouraged to report any concerns about nuisance issues or suspected noncompliance with terms of any permit or other environmental regulation by contacting the TCEQ Dallas/Fort Worth Regional Office at 817-588-5800, or by calling the 24-hour toll-free Environmental Complaints Hotline at 1-888-777-3186.

COMMENT 3: "...applicant is utilizing a common boiler for the purpose of a 'thermal oxidizer'." (Irvin Uphoff)

RESPONSE 3: Air emissions from asphalt storage and asphalt blowing are routed to a thermal oxidizer with a 96% destruction efficiency. The hot exhaust gases from the thermal oxidizer are routed through a boiler to produce steam for the facility.

Changes Made in Response to Public Comments

No changes have been made to the draft permit.

Respectfully submitted,

TEXAS COMMISSION ON
ENVIRONMENTAL QUALITY

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